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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,189	11/23/2005	Jiawen Tu	CN020025	8266
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EXAMINER				
HO, BAO QUAN T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,189

Applicant(s)

TU ET AL.

Examiner

BAO-QUAN T. HO

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SG/IC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 06/20/2005 and 08/16/2006

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-16, 19, 22-23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Glynn, US Patent 5,181,181.

As to claims 1, 5, 8, and 12, Glynn discloses in FIGS. 3 and 4 an input device (Device 1), comprising:

a motion detection sensor (Accelerometers, col. 6 lines 3-12) that is configured to generate three-dimensional motion data (acceleration signals, col. 6 lines 20-22) associated with 3D movement (x, y, z axes) of the input device;

means for transmitting (Transceiver 7-12, col. 6 lines 40-43) the motion data to a computer (Computer 23);

means for causing (Computer Interface Control 36, col. 7 lines 21-33) the computer derive a distance and direction of the movement of the input device in a two-dimensional plane based on the motion data; and

means for causing (Transceiver 22, col. 6 lines 40-43 and col. 7 lines 21-33) the computer to move a cursor to a corresponding position based on the distance and direction derived (FIG. 7, Process 3.3, col. 10 lines 43-50).

As to claim 2 and 9, Glynn discloses wherein the transmitting means wirelessly (Wireless 21, FIG. 3 and col. 6 line 35) transmits the motion data.

As to claim 3, 6, 10 and 13, Glynn discloses further comprising means for generating control signals, in response to a user's command, for causing the computer to perform a corresponding cursor action (Command actions, col. 7 lines 56-61).

As to claim 4, 7, 11 and 14, Glynn discloses in FIG. 1 wherein the cursor action includes one of the following: a left click operation and a right click operation (Left Button 4 and Right button 6, respectively, col. 5 lines 26-32).

As to claims 15, 19, 22, and 26, Glynn discloses in FIGS. 3 and 4 an input device (device 1), comprising:

a motion detection sensor (Accelerometers, col. 6 lines 3-12) that is configured to generate three-dimensional motion data (acceleration signals, col. 6 lines 20-22) on first, second and third axes, (x, y, and z axes, respectively) associated with 3D movement of the input device;

means for transmitting (Transceiver 7-12, col. 6 lines 40-43) the motion data to a computer;

means for causing (Computer Interface Control 36, col. 7 lines 21-33) the computer derive a distance and direction of the movement of the input device in a two-dimensional plane based on the motion data on the first and second axes;

means for causing (Processing element 34, col. 7 lines 44-50) the computer to determine whether the motion data on the third axis is greater than a first predetermined value (Motion signals will be process when it is beyond a threshold level); and

means for causing (Transceiver 22, col. 6 lines 40-43 and col. 7 lines 21-33) the computer to move a cursor to a corresponding position based on the distance and direction derived in the 2D plane (FIG. 7, Process 3.3, col. 10 lines 43-50), upon the computer determining the motion data on the third axis is greater than the first predetermined value.

As to claims 16 and 23, Glynn discloses wherein the transmitting means wirelessly (wireless 21, FIG. 3 and col. 6 line 35) transmits the motion data.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 17-18, 20-21, 24-25, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glynn in view of Bartlett, US Patent 6,347,290.

As to claim 17, 20, 24, and 27, Glynn discloses the device of claim 15, also further comprising:

means for causing the computer to determine whether the motion data (motion signals) on the first and second axes are greater than second and third pre-determined values, respectively (col. 7 lines 44-50, the processing element 34 reduces errors by establishing thresholds of the motion signals, i.e. x, y, and z motions);

Glynn does not specifically disclose means for causing the computer to perform a left click operation, upon the computer determining either the motion data on the first axis are greater than the second predetermined value or the motion data on the second axis are greater than the third predetermined value.

However, Bartlett teaches a device for causing the computer to perform a left click operation (select operation, col. 5 lines 57-61), upon the computer determining either the motion data on the first axis are greater than the second predetermined value or the motion data on the second axis are greater than the third predetermined value (Gesture command are performed after passing a certain threshold, for example shown in FIG. 2a, col. 5 lines 16-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have integrated gesture commands to perform different command operations, such as left click operation, as taught by Bartlett into the Processing Element 34 of Glynn for the purpose of providing confusion between position commands and gesture commands and eliminating the need for a pause while awaiting completion of an input of a command (col. 2 lines 15-22).

As to claims 18, 21, 25, and 28, Barlett further discloses the device comprising:

means for causing the computer to determine whether a time interval is greater than a predetermined duration (Shown in FIGS. 2a-d, each gesture command is expressed over an interval of time, starting time t_s and ending time t_f . Different command, i.e. left, right, drag operations, etc..., can be associated with different gesture and time interval as shown in four different examples in FIGS. 2a-d, col. 3 lines 56-60), the time interval being between the motion data on the third axis being greater than the first predetermined minimum value and the motion data on the first axis being greater than the second predetermined value or the motion data on the second axis being greater than the third predetermined value (Gesture commands are analyzed when the orientations of any of the three axes are past a certain threshold to prevent analyzing error movements);

means for performing a drag operation upon the computer determining the time interval is greater than the predetermined duration (See FIG. 2c, the gesture command is different than compared to FIG. 2a as the time interval is greater); and

means for performing a right click operation upon the computer determining the time interval is not greater than the predetermined duration (See FIG. 2d, the gesture command is different than compared to FIG. 2a as the magnitude is different, and compared to FIG. 2c as the time interval is lesser).

Although Barlett does not explicitly teach performing a drag operation and right click operation, Barlett teaches the use of different gesture movements can employ different commands to obtain different responses of the computing device (col. 4 lines 8-12).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention was made to have made a design choice and implement known command features of an three dimensional input devices such as double click, right click, scroll operations, etc... corresponding to each different gesture movements of Barlett for the purpose of increasing the versatility functions on a three dimensional input device.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Sakurai et al., US Patent 6,369,794, discloses a motion detection unit.
- b. Hall et al., US Patent 5,703,623, discloses a three dimensional device.
- c. Kim et al., US Patent 5,892,501, discloses a three dimensional device.
- d. Anton et al., US Patent 6,731,268, discloses a three dimensional device.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BAO-QUAN T. HO whose telephone number is (571)270-3264. The examiner can normally be reached on M-F, 8:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chanh Nguyen/
Supervisory Patent Examiner, Art
Unit 2629

BTH